IN THE CLAIMS

Please amend the claims as indicated by the amended claim set below.

1. (Currently Amended) An air-conditioning system for conditioning air by removing heat and moisture from the air and transferring it to the environment, comprising:

a dehumidifier that produces dehumidified air and utilizes a liquid desiccant for drying, the dehumidifier comprising:

a liquid desiccant in two reservoirs, one of which contains a higher desiccant concentration than the other;

a dehumidifier unit into which moist air is introduced and from which less moist air is removed after dehumidification by liquid desiccant transferred thereto;

a regenerator unit which receives desiccant solution that has absorbed from the moist air and removes moisture from it; and

a passageway connecting the reservoirs,

wherein during steady state operation of the dehumidifier, there is a net flow of moisture via the passageway from the reservoir having the lower desiccant concentration to the other reservoir without there being a net flow of desiccant ions through the passageway;

a cooling tower that provides at least one non-desiccant fluid at a temperature lower than the temperature of the liquid desiccant in one of the reservoirs; and

at least one heat exchanger situated in the one reservoir via which the liquid desiccant in the one reservoir is directly cooled by the at least one fluid,

wherein at least one of the at least one fluids comprises air.

2-3. (Cancelled)

4. (Currently Amended) An air-conditioning system according to claim [[2]] 1, wherein said cooling tower comprises at least one cooling chamber through which air flows, and which contains water which evaporates into said air, wherein the at least one fluid comprises one or both of air exiting at least one of the at least one cooling chambers and water cooled in at least one of the at least one cooling chambers.

5. (Original) An air-conditioning system according to claim 4, wherein the water in at least one of the at least one cooling chambers is sprayed into the air in said cooling chamber.

6. (Previously Presented) An air-conditioning system according to claim 4, wherein at least some of the air flowing through at least one of the at least one cooling chambers comprises at least some of the dehumidified air produced by the dehumidifier.

7. (Previously Presented) An air-conditioning system according to claim 4, wherein at least some of the air flowing through at least one of the at least one cooling chambers comprises air that has not been dehumidified by the dehumidifier.

8. (Previously Presented) An air-conditioning system according to claim 4, wherein at least one of the at least one heat exchangers is in thermal contact with at least one of the at least one cooling chambers.

9. (Previously Presented) An air-conditioning system according to claim 4, and including a desiccant pump which pumps the desiccant through at least one of the at least one heat exchangers.

10. (Previously Presented) An air-conditioning system according to claim 4, and including a desiccant reservoir, wherein the liquid desiccant utilized by the dehumidifier is contained at least part of the time in the desiccant reservoir, and at least one of the at least one heat exchangers is in thermal contact with the desiccant reservoir.

11.-24. (Cancelled)

25. (Previously Presented) A system according to claim 1, wherein the dehumidifying unit comprises:

a dehumidifying section;

a dehumidifying section reservoir of said at least two reservoirs containing at least some of the liquid desiccant; and

at least one dehumidifying section element;

wherein each dehumidifying section element moves from the dehumidifying section reservoir to the dehumidifying section, carrying some of the desiccant from the dehumidifying

section reservoir with it, which desiccant absorbs moisture from the air to be dried in the dehumidifying section, and the said dehumidifying section element then moves back to the dehumidifying section reservoir, carrying the desiccant back to the dehumidifying section reservoir.

26. (Previously Presented) A system according to claim 1, wherein the regenerating unit comprises:

a regenerating section;

a regenerating section reservoir of said at least two reservoirs containing at least some of the liquid desiccant; and

at least one regenerating section element;

wherein each regenerating section element moves from the regenerating section reservoir to the regenerating section, carrying some of the desiccant from the regenerating section reservoir with it, which desiccant gives up moisture to the environmental air in the regenerating section, and the said regenerating section element then moves back to the regenerating section reservoir, carrying the desiccant back to the regenerating section reservoir.

27. (Previously Presented) A dehumidifier according to claim 25, wherein the regenerating unit comprises:

a regenerating section;

a regenerating section reservoir of said at least two reservoirs containing at least some of the liquid desiccant; and

at least one regenerating section element;

wherein each regenerating section element moves from the regenerating section reservoir to the regenerating section, carrying some of the desiccant from the regenerating section reservoir with it, which desiccant gives up moisture to the environmental air in the regenerating section, and the said regenerating section element then moves back to the regenerating section reservoir, carrying the desiccant back to the regenerating section reservoir.

28. (Previously Presented) A system according to claim 27, wherein at least one of the at least one dehumidifying section elements moves continuously.

29. (Previously Presented) A system according to claim 27, wherein at least one of the at least one dehumidifying section elements moves intermittently.

30. (Previously Presented) A system according to claim 27, wherein the rate at which the desiccant carried by at least one of the at least one dehumidifying section elements is replaced by desiccant from the dehumidifying section reservoir depends on the rate at which the desiccant carried by said dehumidifying section element absorbs moisture from the air to be dried.

31. (Cancelled)

32. (Previously Presented) A system according to claim 27, wherein air moves through the dehumidifying or regenerating section, and said motion of the air to be dried causes or contributes to causing at least one of the at least one dehumidifying or regenerating section elements to move.

33. (Cancelled)

34. (Previously Presented) A system according to claim 32, and including at least one wheel which comprises at least one of the at least one dehumidifying or regenerating section elements, wherein a rotating of the wheel comprises the moving of at least one of the at least one dehumidifying or regenerating section elements that said wheel comprises.

35. (Cancelled)

36. (Previously Presented) A system according to claim 34, wherein at least one of the at least one dehumidifying or regenerating section elements comprises absorbent material.

37. (Previously Presented) A system according to claim 34, wherein the desiccant adheres to at least one of the at least one dehumidifying or regenerating section elements because of viscosity or surface tension.

38. (Previously Presented) A system according claim 34, wherein at least one of the at least one dehumidifying or regenerating section elements comprises at least one hollow space, and wherein the desiccant remains in said space for at least a portion of the movement of the element.

39.-69. (Cancelled)

70. (Previously Presented) An air-conditioning system for conditioning air by removing heat and moisture from the air and transferring it to the environment, comprising:

a dehumidifier that produces dehumidified air and utilizes a liquid desiccant for drying, the dehumidifier comprising:

a liquid desiccant in two reservoirs, one of which contains a higher desiccant concentration than the other;

a dehumidifier unit into which moist air is introduced and from which less moist air is removed after dehumidification by liquid desiccant transferred thereto;

a regenerator unit which receives desiccant solution that has absorbed from the moist air and removes moisture from it; and

a passageway connecting the reservoirs, via which passageway, during steady state operation of the dehumidifier, there is a net flow of moisture from the reservoir having the lower desiccant concentration to the other reservoir, wherein there is no pumping of liquid desiccant from one reservoir to the other;

a cooling tower that provides at least one non-desiccant fluid at a temperature lower than the temperature of the liquid desiccant in one of the reservoirs; and

at least one heat exchanger situated in the one reservoir via which the liquid desiccant in the one reservoir is cooled by the at least one fluid.

71. (Previously Presented) An air-conditioning system for conditioning air by removing heat and moisture from the air and transferring it to the environment, comprising:

a dehumidifier that produces dehumidified air and utilizes a liquid desiccant for drying, the dehumidifier comprising:

a liquid desiccant in two reservoirs, one of which contains a higher desiccant concentration than the other;

a dehumidifier unit into which moist air is introduced and from which less moist air is removed after dehumidification by liquid desiccant transferred thereto;

a regenerator unit which receives desiccant solution that has absorbed from the moist air and removes moisture from it; and

at least one aperture formed in a partition between the reservoirs, via which at least one aperture, during steady state operation of the dehumidifier, there is a net flow of moisture from the reservoir having the lower desiccant concentration to the other reservoir,

wherein there is no transfer of liquid in either direction between the dehumidifier unit and the regenerator unit, except via the at least one aperture;

a cooling tower that provides at least one non-desiccant fluid at a temperature lower than the temperature of the liquid desiccant in one of the reservoirs; and

at least one heat exchanger situated in the one reservoir via which the liquid desiccant in the one reservoir is cooled by the at least one fluid.

72. (NEW) Apparatus according to claim 4 the at least one fluid comprises air exiting at least one of the at least one cooling chambers.

73. (NEW) Apparatus according to claim 4 wherein the at least one fluid comprises both of air exiting at least one of the at least one cooling chambers and water cooled in at least one of the at least one cooling chambers.

74. (NEW) An air-conditioning system according to claim 73, wherein at least some of the air flowing through at least one of the at least one cooling chambers comprises at least some of the dehumidified air produced by the dehumidifier.

75. (NEW) An air-conditioning system according to claim 73, wherein at least some of the air flowing through at least one of the at least one cooling chambers comprises air that has not been dehumidified by the dehumidifier.

76. (NEW) An air-conditioning system according to claim 73, wherein at least one of the at least one heat exchangers is in thermal contact with at least one of the at least one cooling chambers.

77. (NEW) An air-conditioning system according to claim 73, and including a desiccant pump which pumps the desiccant through at least one of the at least one heat exchangers.

78. (New) An air-conditioning system for conditioning air by removing heat and moisture from the air and transferring it to the environment, comprising:

a dehumidifier that produces dehumidified air and utilizes a liquid desiccant for drying, the dehumidifier comprising:

a liquid desiccant in two reservoirs, one of which contains a higher desiccant concentration than the other;

a dehumidifier unit into which moist air is introduced and from which less moist air is removed after dehumidification by liquid desiccant transferred thereto;

a regenerator unit which receives desiccant solution that has absorbed from the moist air and removes moisture from it; and

a passageway connecting the reservoirs,

wherein during steady state operation of the dehumidifier, there is a net flow of moisture via the passageway from the reservoir having the lower desiccant concentration to the other reservoir without there being a net flow of desiccant ions through the passageway;

a cooling tower that provides at least one non-desiccant fluid at a temperature lower than the temperature of the liquid desiccant in one of the reservoirs; and

at least one heat exchanger situated in the one reservoir via which the liquid desiccant in the one reservoir is cooled by the at least one fluid,

wherein said cooling tower comprises at least one cooling chamber through which air flows, and which contains water which evaporates into said air, wherein the at least one fluid comprises one or both of air exiting at least one of the at least one cooling chambers and water cooled in at least one of the at least one cooling chambers, .

wherein at least some of the air flowing through at least one of the at least one cooling chambers comprises at least some of the dehumidified air produced by the dehumidifier.

79. (NEW) An air-conditioning system according to claim 78, wherein the water in at least one of the at least one cooling chambers is sprayed into the air in said cooling chamber.

80. (NEW) An air-conditioning system according to claim 78, wherein at least one of the at least one heat exchangers is in thermal contact with at least one of the at least one cooling chambers.

81. (NEW) An air-conditioning system according to claim 78, and including a desiccant pump which pumps the desiccant through at least one of the at least one heat exchangers.

82. (NEW) An air-conditioning system according to claim 78, and including a desiccant reservoir, wherein the liquid desiccant utilized by the dehumidifier is contained at least part of the time in the desiccant reservoir, and at least one of the at least one heat exchangers is in direct thermal contact with the desiccant reservoir.